DOCUMENT RESUME

ED 126 081 95 SP 010 280

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TITLE	Problems and Prospects of Teaming. Research and Development Memorandum No. 143.
INSTITUTION	Stanford Univ., Calif. Stanford Center for Research and Development in Teaching.
SPONS AGENCY	National Inst. of Education (DHEW), Washington, D.C.
REPORT NO	SCRDT-RDM-143
PUB DATE	Jun 76
CONTRACT	NE-C-00-3-0062
NOTE	23p.; Adapted from a paper presented at the Annual Meeting of the Sociology of Education Association (Asilomar, California, February 1976)
EDRS PRICE	MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS	Elementary Education; Group Dynamics; Open Plan Schools; *Program Coordination; *Program Evaluation; *Teacher Influence; Teaching Techniques; *Team Administration; *Team Teaching
IDENTIFIERS	California (San Francisco)

ABSTRACT

A series of studies of elementary schools in the San Francisco Bay area revealed a number of the causes and consequences of collaborative instruction (teaming). The most recent study, a two-year panel analysis, found that complexity of instructional methods and the physical structure of open space schools are the significant predictors of collaborative teaching over time. There is a wide variation in the work relationships called teaming, and teachers defined themselves as team members by at least one of four criteria: (1) team planning of instruction; (2) team evaluation of students; (3) team coordination of discipline; and (4) joint teaching. As a team becomes more interdependent it is able to sustain complex and sophisticated methods of instruction which require nonroutine decision-making. Teaming also results in improvements in the informal collegial evaluation system, an increased sense of influence and autonomy, and finally, when an entire school is mostly teamed there are changes in the patterns of governance. Principals share decision-making with teachers but feel more, rather than less, influential. Team interaction for some groups is a source of dissatisfaction and troubled work relationships. Large teams break up into smaller ones; highly interdependent teams become less interdependent; and many teams disappear only to have new teams spring up. Unless teams solve the problem of maintaining active participation of all members over time, many of the desirable results of teaming cannot be obtained. (DMT)

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ED126081

Research and Development Memorandum No. 143

PROBLEMS AND PROSPECTS OF TEAMING

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June 1976

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SP 010 280

Published by the Stanford Center for Research and Development in Teaching, supported in part as a research and development center by funds from the National Institute of Education, U. S. Department of Health, Education, and Welfare. The opinions expressed in this publication do not necessarily reflect the position, policy, or endorsement of the National Institute of Education. (Contract No. NE-C-00-3-0062.)

Introductory Statement

The mission of the Stanford Center for Research and Development in Teaching is to improve teaching in American schools. Current major operations include three research and development programs--Teaching Effectiveness, The Environment for Teaching, and Teaching and Linguistic Pluralism--and two programs combining research and technical assistance, the Stanford Urban/Rural Leadership Training Institute and the Hoover/ Stanford Teacher Corps Project. The ERIC Clearinghouse on Information Resources is also a part of the Center. A program of exploratory and related studies provides for smaller studies not part of the major programs.

This report summarizes several years' work by one component of the Environment for Teaching Program. The author, Dr. Elizabeth G. Cohen, is Director of the Program.

Abstract

Despite the lack of understanding of the organizational support necessary for the success of teaming, teachers continue to attempt collaboration. There are forces that continue to move teachers toward teaming: (1) the complexity of instructional methods now being used in elementary schools and (2) the physical structure of open-space schools.

A series of studies of elementary schools in the San Francisco Bay area reveals a number of causes and consequences of teaming. The most recent study, a two-year panel analysis, found that complexity of instruction (particularly variation in teaching materials) was a significant predictor of collaborative teaching over time. There is a wide variation in the work relationships called teaming; as the group becomes more interdependent, we find that it is able to sustain complex and sophisticated methods of instruction which require nonroutine decision-making. Other consequences of teaming are improvements in the informal collegial evaluation system, an increased sense of influence and autonomy, and finally, when an entire school is mostly teamed with a strong degree of interdependence, there are changes in the governance pattern. Principals share decisions with teachers, but feel more rather than less influential.

Teaming is unstable: large teams break up into smaller ones, highly interdependent teams become less interdependent, many teams disappear only to have new teams spring up. Team interaction is for some groups a source of increased power and collegial evaluation, and for others a source of dissatisfaction and troubled work relationships. Unless teams solve problems of maintaining active participation of all members over time, many of the desirable results of teaming cannot be obtained. Although the proportion of teachers in teams in the sample as a whole does not decrease over time, individual teaming arrangements are fragile and schools that are intensively and extensively teamed appear to be experiencing problems with their environment. Because of teaming's potential for the management of complex instruction, it is recommended that organizational support for teaming receive immediate attention.

PROBLEMS AND PROSPECTS OF TEAMING

Elizabeth G. Cohen

When I tell people that the Environment for Teaching Program researchers continue to be deeply involved in studying teacher teams, the most common response is "Why, didn't you know? Teams are passé!" I do not believe this is so; and even if it were, as an applied researcher I would still find collaborative relationships among elementary-school teachers an important field of study. Team teaching, with the interdependence in working relationships it fosters, is closely linked to change in the evaluation process, change in the technology of teaching, and even change in the governing of the school.

Readers of our research reports often conclude that we are and have been "selling teaming" as a panacea in much the same way that many educational developers come to be associated with a particular product. This is really not the case. Only a group that has been studying teaming since 1968 could have as sharp a realization as we do of the acute problems facing teams--of what unstable and informal arrangements they are. Looking back over the past seven or eight years we can only conclude that this particular innovation has been tried out despite little understanding by team members or administrators of the kinds of support required for its success, no understanding in advance of the price of the extra communication and coordination required, and no understanding of the intimate relationship of teaming to the methods of instruction used.

We have come to see that certain innovations in instruction have encouraged and will continue to encourage the development of collaborative relationships, despite their costs and problems. Because there

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Adapted from a paper presented at the Annual Meeting of the Sociology of Education Association at Asilomar, California, February 1976. This report will also appear in the Summer 1976 issue of the Educational Research Quarterly.

is no effective support system (or even a realization that teaming requires support), when the price of joint activities becomes too high, the team drops down to a lower level of interdependence or dissolves altogether. But teaming itself does not become passé, because new collaborative relationships spring up in the same or different schools to replace the ones that have died out.

Defining Teams

Only after a number of studies did we realize that "teaming," as the word is used by practitioners, covers too wide a range of collaborative relationships to be useful in sociological analysis. Some limited relationships, such as coordination of discipline and cross-grouping, do not have the same consequences as the more complex and interdependent relationships, such as joint teaching. Furthermore, there are teachers whose working relationships could be described as highly interdependent, but who do not call themselves "team members." It was a study of the different ways teams work together that called this problem with the label "team teaching" to our attention most forcefully (Bredo, 1975).

Our most recent study of teams was part of a two-year larger investigation of the relationship of the organization of schools to patterns of instruction. In 1973, we took a large random sample of schools and school districts in the San Francisco Bay area, interviewing principals (N = 188) and superintendents. In sixteen of the schools we gave a questionnaire to the entire faculty. In 1975, we returned to the principals of 103 of these schools and to the teachers working in the sixteen schools we had studied intensively in 1973. In addition to the teachers in these sixteen schools, we selected 32 additional schools where the principal was being interviewed in 1975 and administered a questionnaire to these teachers. This gave us a total sample in 1975 of 469 teachers. The sample of teachers, unlike the sample of principals, is not random, but was selected to represent a wide range of teaching arrangements, school architecture, and socioeconomic status (SES) levels.

Of the 469 teachers queried in 1975, we found that 56.9 percent (267 teachers) could be defined as team members by at least one of four criteria: (1) team planning of instruction, (2) team evaluation of students, (3) team coordination of discipline, and (4) joint teaching. Table 1 shows the percentage of teachers involved in each of these four activities. Only 28.1 percent (131 teachers) reported being engaged in joint teaching, which requires the most coordination and communication of the four. Comparatively few teachers reported being involved in only one of these activities. In fact, of the 267 teachers who were engaged in any team relationships, 39.3 percent were involved in all four. This reflects the fact that those who undertake the most demanding type of team teaching--joint teaching--also team on the other tasks. These findings suggested to us that the best way to view these relationships was as a dimension of interdependence, where those who managed the most demanding kinds of interdependence also managed some of the less demanding ones. Many teams only managed a combination of some of the less demanding tasks.

TABLE 1

Percent of Elementary School Teachers
Reporting Team Activities, by Activity*
(N = 469)

Team Activity	Percent of Teachers Involved
Team Planning of Instruction	47.3%
Team Evaluation of Students	43.9
Team Coordination of Discipline	50.3
Joint Teaching	28.1

*Data from a questionnaire sample of selected San Francisco Bay area schools, 1975.

Interdependence

Given this large sample, we constructed a Guttman Scale to clarify the dimension of interdependence. The Guttman Scale is presented as Table 2. Those who agreed to the most difficult item (joint teaching once a week or more) also agreed to the other items. This measure enables us to talk about a phenomenon of reciprocal interdependence rather than "team activities." Although the report of teaming is highly correlated with the scores on the interdependence scale, many teachers who are on teams by some of the criteria in Table 1 would not

TABLE 2

Teacher Interdependence: Guttman Scale

Criterion	Favorable Response	Percent of Favorable Responses
1. How frequently do you jointly conduct activities or lessons with another teacher (other teachers) for a common group of students?	Once a week or more	28%
2. To what extent do you have to take other classroom teachers into account in your own teaching approach?	Moderate, great, or considerable extent	42.6%
3. To what extent do you have to take other classroom teachers into account in your own teaching with respect to content in the lessons you teach?	Moderate, great, or considerable extent	45.8%
4. To what extent do you have to take other classroom teachers into account in your own teaching with respect to timing or scheduling of class periods?	Moderate, great, or considerable extent	76.4%

R = .96 Scalability = .90

receive high interdependence scores. The distribution of scale scores shown in Table 2 is another way of describing the extent of teacher collaboration; this way tells us the proportion of teachers at various points in a rank order of increasing interdependence.

Size

In the heyday of the building of open-space schools, when the Environment for Teaching Program carried out its first studies in 1968, teams of five and six were not uncommon in large open-space pods (Meyer & Cohen, 1971). As the years have passed, however, large teams have disappeared. When we returned in 1975 to the same schools we studied in 1973, we found the most common team size to be only two. This pattern remained stable over the two-year period. In the large teacher sample of 1975, 45.3 percent of all teamed teachers were in teams of two, 35.2 percent were in teams of three, and only 8.6 percent were in teams of five or more members. The reason for this decline in team size was probably the need to decrease the costs in time of coordination and communication associated with larger groups. Time is a teacher's scarcest resource, and a two-person team is less wasteful of teacher time than a larger group is.

Teams have historically been associated with open-space schools, but we found in our 1975 sample that only 41.7 percent of all teamed teachers worked in open space. The remainder were working in self-contained classrooms.

The Relationship of Teaming to Technology

In studies of organizations, it is frequently pointed out that there is a relationship between the organization of the staff and the nature of the task--or, as sociologists call it, the "technology" of the organization. The traditional pattern of teacher isolation, from a sociological point of view, cannot handle tasks of any complexity. It is most appropriate when the instructional methods involve a kind of "large batch processing," whereby the teacher moves the whole class,

or two or three ability groups, through the same materials at the same pace. This relatively simple technology has the advantage of simplifying and standardizing those matters that the teacher must take into account in making assignments. For example, if we must always start fractions by February of the third grade, the decisions about assignments for class members become relatively simple. Student evaluation will take the form of marks on a quiz on fractions, and one test will be a suitable means of evaluation for the whole class. The problems of record-keeping are also simplified. Thus, the least complex teaching technology involves simplicity in materials and in decision-making.

The recent longitudinal study described above was an effort to understand the relationship between staffing patterns and differentiation in the technology of teaching. By differentiation I mean the variation in pacing and in materials in simultaneous use in a classroom. In the 1973 wave of this longitudinal study, we found a correlation between teaming and differentiation in the technology of teaching as reported by teachers (Cohen & Bredo, 1975). We hypothesized that this relationship was a causal one, with increasing complexity in the nature of teaching acting as a lever on the staffing pattern to encourage the formation of collaborative relationships in order to handle the proliferation of materials and complex patterns of innovations, such as individualization. Teaming was seen as a more complex staffing pattern than the traditional one of isolated teachers relating mainly to the principal.

By intensively studying all of the teachers in sixteen of the schools in our longitudinal study, we attempted to test a causal hypothesis about the relationship between teaming and differentiation of instructional patterns. We measured the variation in classroom materials in simultaneous use for a given subject by asking the teachers in each school the same question once in the spring of 1973 and again in the spring of 1975. We also asked on each occasion whether or not they were on teams as defined by any of the criteria listed in Table 1. We then aggregated to the school level the reports of individual teachers, both on materials variation and on teaming.

Statistical analysis using the multiple regression technique demonstrated that the complexity of reading materials in 1973 was a significant predictor of an increase in amount of teaming between 1973 and 1975. This ability of variation in reading materials to predict teaming over time remains strong even when open-space teaching areas are taken into consideration as a predictor of teaming. In other words, schools that were higher on materials variation in reading instruction in 1973 were more likely to show an increase in teaming than schools that were lower in materials variation.

The multiple regression first entered the amount of teaming we found in 1973. This step has the effect of holding constant the amount of teaming initially present when we examined the effects of differentiation in materials over time. The autocorrelation between teaming in 1973 and in 1975 at these sixteen schools is .64. Taking the amount of teaming present in 1973 into account, materials variation in reading is a significant predictor of teaming (Beta weight = .42). This ability of materials variation to predict teaming over time remains strong even when open-space teaching areas are taken into consideration (Beta = .41).

In contrast to the above, we find no evidence of a causal flow running from teaming to materials variation. If we analyze the data in a multiple regression parallel to that just described, we find a Beta weight of only .08 for teaming at Time 1 as a predictor of materials variation in reading at Time 2 (holding constant the effect of materials variation at Time 1). These analyses are summarized in Table 3.

Thus it appears now that there is good evidence that teaming can arise as a response to the complexity and management problems brought on by the rich array of teaching materials in simultaneous use in the elementary school, particularly in the area of reading. Our longitudinal data show both a continuing proliferation of these materials and a marked increase in reports of individualization of materials and pacing in our sample over time. As long as this trend continues, we can expect to keep finding attempts to work in a collaborative manner among teachers.

TABLE 3

Multiple Regression of the Effects of Teaming and Materials Variation on Each Other over Time (T)

Dependent Variable	Autocorrelation (T1 with T2)	Predictor Variable	Beta	Significance of F
Teaming (T2)	.64	Materials variation (T1)	.42	.05
	Controlling for Open Space			
Teaming (T2)	.51		.41	.05
Materials variation (T2)	.69	Teaming (T1)	.08	NS

We have used variation in materials and pacing as indicators of the growing differentiation in the technology of teaching in the elementary school. A much more subtle dimension of technology has to do with the character of teacher decision-making. If decisions are made on a traditional basis of "what we always do each year," or if they are preprogrammed by some kind of a "teacher-proof" reading curriculum, we describe the decision-making process as "routine." If, in contrast, the teacher must constantly observe the consequences of his or her decisions on assignments and change plans on the basis of that feedback, then the decision-making has a "nonroutine" character.

Theoretically, an interdependent group should be able to handle nonroutine decision-making much better than an isolated teacher could. The group members can develop consistent rationales through talking with each other. They can also develop complex systems of record-keeping and evaluation in order to insure that they will have the best possible information on each student's progress to be used as a basis for individual assignments or flexible grouping. We have made several attempts to test this proposition about a collaborative group's better ability to handle nonroutine decision-making.

From the 1973 wave of data, Bredo found that those teacher teams reporting relatively frequent use of joint teaching were more likely to report frequent changes of membership in instructional groups in reading (Bredo, 1975). From the 1975 wave of data, Intili has developed a series of measures of the reflective character of teacher decision-making in the reading area. Her measures include the systematic character of information processing and the breadth and depth of student data utilized in making decisions. As predicted, Intili found that there is a strong relationship between being high on all her indices of reflective decision-making and working in an interdependent group that meets frequently (Intili, 1976). It is important to note in these results that nonroutine decision-making is a product not so much of simple collaboration as of the relatively intensive collaboration we are measuring with the interdependence scale (when collaboration is accompanied by frequent team meetings).

Teaming and Evaluation Processes

The Environment for Teaching Program has had a long-standing interest in the evaluation process, or lack of it, in the elementary school. We have utilized a theory of evaluation and authority (Scott & Dornbusch, 1975) to study this process. Our first studies of teaming found that team teachers in open-space schools were much more likely to experience informal evaluations by other teachers than were nonteamed teachers in self-contained schools (Meyer & Cohen, 1971). Subsequent studies showed that it was the visibility of the team teaching situation that played the key role in increasing evaluation by colleagues. Two researchers found that teachers working in teams, and thus viewing one another's work frequently, not only received more informal evaluation than nonteamed teachers did, but considered these evaluations more soundly based and therefore of greater importance (Schiller, 1972; Marram, Dornbusch, & Scott, 1972). Scott and Dornbusch summarize some of these findings as follows:

> We have already reported that the situation of teachers varies greatly depending on whether they are working in a team or a nonteam situation. Teachers in teams, compared with teachers working individually in isolated classrooms, were much more likely to report that their work was visible to their colleagues and that their fellow teachers' evaluations were soundly based. They also were much more likely to regard the evaluation of their peers as important. Indeed, working in teams not only increased the importance of peer evaluations, but also increased the teacher's perception of the influence that other teachers' evaluations had on organizational sanctions. Preferred influence was also affected. Teachers who worked in teams were more likely to desire increases in the influence of their peers than were teachers in self-contained classrooms (Scott & Dornbusch, 1975, p. 184).

The frequency with which one's work is observed also increases in open space. Meyer and Cohen (1971) found in their early study that teachers teamed in open space were more in favor of collegial evaluation as a formal system than were nonteamed teachers. Schiller (1972) found that teams with greater visibility reacted more favorably toward collegial evaluation than teams with less visibility.

Thus teaming, especially when the teachers' work is highly visible, appears to have important consequences for informal collegial evaluation; even more important, teaming may lead to the development of a system of collegial evaluation with high perceived legitimacy and acceptance (see Roper, Deal, & Dornbusch, 1976).

Teaming and Teacher Influence in School Decision-Making

A third important aspect of teaming is the sense of teacher influence that appears to stem from team interaction under certain conditions. Meyer and Cohen (1971) found that team teachers in open space interacted more than nonteamed teachers did and felt more influential and autonomous with respect to teaching tasks. As we began to draw a picture of increased interaction and exchange of evaluations, it was not surprising to find that teachers were reporting that they influenced each other and that they were accepting influence from others. What we

had not expected were reports that team teachers felt an increased sense of individual autonomy and influence in the school as a whole. Somehow, we were seeing teachers with an increased sense of control, efficacy, or power as a consequence of team interaction and influence.

We interpreted these results to mean that the process of interaction led to an increased sense of influence because some teams were seeking and gaining control over decisions beyond their classrooms. Johnson (1975) queried the 188 principals in the first wave of the longitudinal study on the role of team teachers in schoolwide decision-making. He reasoned that if the interactions of team teaching resulted in a growth of participatory governance, the principal should be able to report on the increased power of team teachers. Johnson classified schools according to the proportion of all teachers involved in teaming and the intensity of the interdependence within the teams. He found a sharp change in teacher power in those schools where over half the teachers were in highly interdependent teams. The random sample of 188 schools did not turn up very many schools of this character, but Johnson found that the principals in such schools--in contrast to principals in others--reported teachers to be more likely to make or participate in a range of decisions including, for example, utilizing paid aides, hiring a new teacher, developing school policies on use of buildings, or assigning pupils. Oddly enough, principals who shared so many decisions with teachers felt more rather than less influential in their schools, in contrast to those principals who made more decisions by themselves. Because these changes in governance did not appear until a school was extensively teamed and showed high interdependence within teams, we concluded that the changes in decision-making stemmed not so much from a policy of governance as from the successful working relationships of the staff. In other words, a new source of teacher power seemed to result from intense interaction and the growing sense of the efficacy and influence of teamwork.

Interaction as a Problem

Although we have seen that team interaction is a positive source of changes in the evaluation of teachers and a potential source of teacher power, it is also the source of many team problems. Meyer and Cohen noted in 1971 that the increased interaction of team teachers was not unconditionally associated with teacher satisfaction. Only when interaction was associated with an increased sense of teacher influence was it accompanied by high satisfaction. Some interactions lead not to influence, but to acute dissatisfaction. This interpretation was strongly borne out by a unique observation study of teacher team meetings (Molnar, 1971). Molnar actually scored task activity by various team members over several meetings. She also administered a questionnaire to the team members. In some of the teams, she noted a persistent imbalance in participation, with certain members dominating the interaction. In such cases the active team member would report feeling very influential, but the other members would not. Moreover, the relatively inactive team members did not think their team was influential around the school. In contrast, other teams had what Molnar characterized as a "balanced" pattern of interaction, with different teachers taking the most active role at different meetings. In balanced teams, everyone felt influential and relatively effective as a group. Thus in the Molnar study it first became clear that unless the team solved the problem of maintaining active participation of all members over time, many of the desirable results of teaming would not be attained. Teachers on unbalanced teams related many sad stories of just how unhappy they were with their teams.

The Instability of Teaming

This was only the beginning of our growing understanding of the fact that when team interaction was good, it was very good, and that when it was bad, it was awful. This was much more than a simple problem of achieving balanced participation. Teachers were finding that team meetings took up too much precious time; endless and unproductive

meetings made the costs of teaming much too high for the gains. When Bredo found that the practice of cross-grouping (with its relatively low level of interdependence) was associated with dissatisfaction with team relations whereas joint teaching was associated with a high level of team satisfaction, he concluded that teachers with team problems tended to give up joint teaching and drop down to a level of interdependence requiring less in the way of time, coordination, and communication (Bredo, 1975).

Furthermore, because teaming is more complex than the traditional staffing patterns, it evidently requires coordination among the teachers in the team and between the team and the rest of the school. Some of our current investigations into the principal's role are showing that when teachers work with each other, the extent to which the principal plays an integrative role becomes an important predictor of staff morale (Cohen, Bredo, & Duckworth, forthcoming).

All these problems of time, communication, and coordination--as well as the problem of lack of proper support from the principal--appear to result in a most unstable and informal set of arrangements. As a matter of fact, teacher teaming does not appear to be a product of formal organizational planning by the principal and the staff. Over half the team teachers in our recent sample reported that their team started when a few teachers "decided to work together." If things did not go well, they evidently moved into other arrangements just as informally. Although there is some stability in the tendency toward collaboration in given schools over time (a correlation of .64 in proportion of teachers teamed at two points in time in our sixteen-school sample), one should not think that the teams producing this correlation were stable. In many cases teams were temporary, and new teams sprang up to replace ones that had fallen apart. We came to this rather disturbing conclusion after examining several features of our longitudinal data very carefully. If we look at the proportion of teachers in the lower and upper grades of a given elementary school over a two-year period, we can see that the proportion working in

team arrangements fluctuates markedly. The proportion of team teachers who engage in frequent joint teaching is even more unstable: it was not at all uncommon to find four out of six teachers in a school reporting frequent joint teaching in 1973 and none reporting frequent joint teaching in 1975. Similarly, joint teaching "sprang up" among almost half the faculty in a school that had none two years before. This picture of unstable work arrangements is substantiated by a question we asked the teachers in the 1975 study concerning how much change had taken place in the past two years in arrangements by which the teachers worked together. Twenty percent of the teachers said a "considerable amount," 22 percent said a "moderate amount."

These reports from the teachers in sixteen schools are supported by reports from the principals we questioned in over 100 schools in 1973 and 1975. Table 4 presents the reports of principals on the proportion of their faculty working in teams (i.e., extensiveness of teaming) at the two times. This table shows a good deal of shift in working arrangements. For example, of the 38 schools where more than 51 percent of the teachers were teamed in 1973, only fourteen are still that way today; seven have no teams. Before we conclude that teaming is simply disappearing, we must remember the stability in the <u>proportion of individuals</u> who report teaming arrangements. The lifespan of these teaming arrangements is probably not long, but other arrangments arise to take the place of the defunct ones. Furthermore, there were a number of nonteamed schools in 1973 where new teams were springing up in 1975.

Although it does not seem that the practice of teaming is disappearing, there is disturbing evidence that in schools which are extensively teamed <u>and</u> in which there is a high level of interdependence (i.e., intensive teaming), team arrangements are extremely fragile. Not only have these intensively teamed schools in the 1973 sample greatly changed, but comparatively few such schools have arisen to take their place. There were fourteen high extensity, high intensity schools in the 1973 sample. We tried to include all of them in the 1975 sample because Johnson's findings on governance changes were so important. Of the

original fourteen, only two were extensively and intensively teamed in 1975; and only five schools in the sample were newly classified as both intensively and extensively teamed in 1975.

TABLE 4

Change in Extensity Measure over Time, as Reported by 100 Principals

Time[1]	N	Time[2] No Teaming (0%)	Low Extensity (1-50%)	High Extensity (51% +)
No Teaming (0%)	25	13	9	3
Low Extensity (1-50%)	34	9	14	11
High Extensity (51% +)	38	7	17	14
N	97	29	40	28

Because we had such high hopes for the phenomenon of teacher power in schools with extensive and intensive teaming, we tried to examine our data very carefully to see what evidence we could find that gave a clue to the problems of these schools. We picked out sixteen schools that made extensive use of teams and of complex instruction in 1973. Only four of the sixteen principals had an explicit policy on teaming in 1975. Compared to the rest of the schools we studied, these schools were more likely to report teacher-parent conflict. We began to wonder whether or not these highly innovative schools were running into community opposition as they became so obviously different from other schools. Our data strongly suggest that few principals realized that teams do not continue to exist all by themselves; they require explicit policies and support from the administration. From fieldwork with administrators we have

begun to understand that principals have not received the advice or technical help they need to support such reconstituted staffing arrangements. Thus they do not seem to see the need for administrative attention to this problem.

Conclusions and Implications

Research is a process of getting smarter about some things. We are still in the midst of our research on teaming, but I can sketch a picture of our understanding as of now. There are forces that are moving teachers toward collaborative arrangements. One of these is the growing complexity of the instructional methods being used in the elementary schools. The need to manage this complexity with a reasonable system and to maintain careful feedback to individual students will probably continue to motivate teachers to make informal collaborative arrangements. The second force is really architectural, i.e., open-space schools. Unless teachers in open-space schools collaborate at least on scheduling of quiet and noisy activities and on disciplinary problems, they will find it difficult to survive. In our early studies, we found that team teachers in open space were more satisfied with teaching than teachers working in other settings. Now that the "innovative charm" has worn off open-space schools, this is no longer the case. Open-space schools push the teachers toward interdependence; but without proper policies on discipline and without principal support, this can create as many problems as it solves (Cohen, Bredo, & Duckworth, forthcoming).

Given that these exogenous forces will continue to push teachers into collaborative arrangements, what are we to think of the problems facing teams? The potential of teaming not only to manage a complex technology but also to foster collegial evaluation and even participatory governance in intensively teamed schools is very exciting. But we have been witnessing an organizational innovation trying to survive without effective preparation or support. (If districts had policies on teaming, we found that principals did not know about them.)

Team meetings we have observed suggest that no one has helped team members with such simple techniques for saving time as using an agenda. We know that teams which have developed policies for problems like discipline and evaluation are much more satisfied with their work relations. But we find many teams that do not know about the importance to the group of development of policies. (Roper and Nolan [1976] have suggested time- and trouble-saving procedures for team members based on their experience with and observation of a school staff moving from self-contained classrooms to teaming in a new open-space building.) Teams are typically run in an equal-status fashion. They do not take advantage of the efficiency of even temporary leadership for the purpose of carrying out specific tasks. They seem to try to solve everything by consensus methods. As most of us have found during these egalitarian years in academia, consensus groups may be wonderful for providing a sense of legitimacy for all decisions, but they can take terrible amounts of time over relatively unimportant decisions.

In summary, teams do not seem to be disappearing, but they do give evidence of considerable fragility and instability. Despite these problems, there are strong indications that increased staff interdependence can and does provide one solution to the problem of management of complex technology in many elementary classrooms in the San Francisco Bay area. There is also strong evidence that such interdependence is associated with an informal system of collegial evaluation. However, when we look to these emergent collaborative relationships as a source of change in the formal collegial evaluation system or as a source of potential teacher power in schools made up largely of interdependent staffs, we find that the current state of organizational support is critically weak. It seems to us that some relatively simple things can be done to help teachers solve their communication and coordination problems. Some of these should be directed to the work group itself, and some should surely be directed toward principals, who need to understand their role in supporting and coordinating a complex and interdependent staffing pattern. Unless these problems are solved, it seems unlikely that the full potential of teacher interdependence can be realized in a stable and consistent manner.

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